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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,738	08/16/2002	Albert John Dzermejko	APV31549	9734
24257	7590	04/20/2004	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP 1615 L STREET, NW SUITE 850 WASHINGTON, DC 20036			KASTLER, SCOTT R	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/070,738	<b>Applicant(s)</b> DZERMEJKO ET AL.	
	<b>Examiner</b> Scott Kastler	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

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Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hille et al in view of McKoon. Hille et al teaches that in cooling plates for shaft furnaces, it was well known in the art to employ cast in steel tubes in a copper casting as the cooling plate (see col. 1 lines 25-34 for example). Hille et al also teaches, in the embodiments of the figures for example, that it was known in the art at the time the invention was made to equip cooling plates for shaft furnaces with a multiplicity of horizontal ribs (9) where the ribs include supporting backs (the bottom portions of the rib support the upper portions) and where the ribs thicken towards their free ends (see col. 4 lines 55-65 for example), and that these ribs serve to hold a refractory for protecting the cooling plate, thereby showing all aspects of the above claims except to specifically teach that the ribs are also employed on cooling plates made by casting copper around steel cooling tubes, any specific rib dimensions, or the use of Monel as the tube material. However, with respect to the use of ribs on a cooling plate, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because improved protection of the cooling plate would also be desirable in the cooling plates disclosed by Hille et al which include cast in steel cooling tubes, and it would have been a modification obvious to one of ordinary skill in the art at the time the invention was made to employ a multiplicity of horizontal ribs, as taught by Hille et al, in the cast copper cooling plate including cast in steel cooling tubes, also taught by Hille et al, in order to improve protection of the cooling plate and thereby increase the service life of the cooling plate. With respect to rib shape, or dimension, the ribs of Hille et al operate in substantially the same manner (by allowing the adhesion of slag or refractory to the cooling plate) for substantially the same purpose (to improve the protection and service life of the cooling plate) as that of the instantly claimed rib

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configuration. It has been well settled that where, as in the instant case, a prior art component is shown to operate in substantially the same manner for substantially the same purpose as claimed, motivation to alter the configuration or shape of the component (in the instant case, the rib configuration) without materially altering the operation or function of the component would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See *In re Dailey*, 149 USPQ 47 and MPEP 2144.04 IV B. In the instant case, absent any showing of new or unexpected results arising therefrom (such as improved refractory or slag retention, or improved resistance to breakage) presented in proper declaration or affidavit form, motivation to alter the configuration or shape of the ribs (9) of Hille et al to any desired shape or configuration, as long as the function (slag or refractory retention) required by Hille et al is maintained, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. Finally, with respect to the use of Monel as the material for the tubes of Hille et al, both of McKoon (pp 46-49) teaches that in water cooled cooling devices where preformed cooling tubes are cast into a copper plate, it was known in the art at the time the invention was made to employ Monel as the material for the cooling tubes and that this combination of Monel tubes and a cast copper plate is desirable because the higher melting point Monel tubes are less likely to be melted and/or degraded during the casting of the lower melting point copper plate around the tubes. Because reduction of melting of the cast in tubes would also be desirable in the cooling plate described by Hille et al, motivation to employ Monel as the tube material, as described by McKoon, in the copper cooling plate described by Hille et al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

***Response to Arguments***

Applicant's arguments filed on 2-12-2004 have been fully considered but they are not persuasive. Applicant's argument that Hille et al teaches only tubes which are drilled or bored into a copper cooling plate rather than tube which are cast into the plate is not persuasive. Hille et al specifically states, at col. 1 lines 25-27 for example, "Plates made of a copper casting, in which the cooling channels are formed either by cast-in steel tubes or are cast in directly, have been known." Thereby clearly teaching that cast copper plate coolers with cast-in tubes of a different material were known in the art at the time the invention was made. As stated in the above rejection, Hille et al also teaches that ribs disposed on the opposite side of the plate cooler were also known in the art at the time the invention was made.

Applicant's argument that Hille et al does not teach the specifically recited rib shapes or configurations is not persuasive because as stated in the above rejection, applicant has not yet provided in any proper form, evidence showing that the instantly recited shape or configuration of the ribs provides any different result from the ribs disclosed by Hille et al. As stated in the above rejection, It has been well settled that where, as in the instant case, a prior art component is shown to operate in substantially the same manner for substantially the same purpose as claimed, motivation to alter the configuration or shape of the component (in the instant case, the rib configuration) without materially altering the operation or function of the component would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See *In re Dailey*, 149 USPQ 47 and MPEP 2144.04 IV B.

Applicant's argument that McKoon is not properly combinable with Hille et al and therefore, there the combination does not serve to show that the use of a Monel tube in a cast copper plate was obvious to one of ordinary skill in the art at the time the invention was made is also not persuasive. McKoon deals with the use of cooling pipes in a cast copper cooling block for use in a cooling device, since Hille et al also is a cooling block and teaches both cast-in and drilled cooling channels, the two references are analogous in that they both are concerned with heat transfer in cast copper cooling devices and the best composition for cooling tubes employed therein in order to improve heat transfer.

Finally, Applicant's argument regarding the MacRae reference has been considered and is sufficient to overcome rejections employing this reference.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Scott Kastler  
Primary Examiner  
Art Unit 1742

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